

GEORGE THOMPSON.  
Improvement in Corn-Planter.

. 127,938.

Patented June 11, 1872.

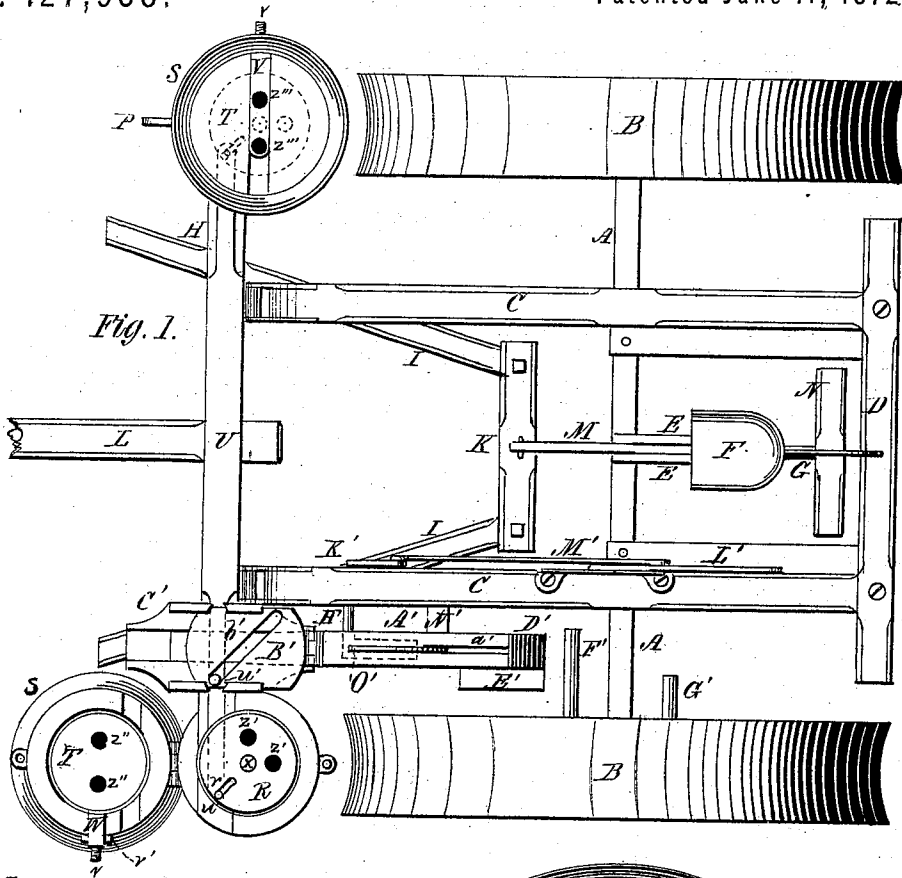


Fig. 1.

Fig. 3.

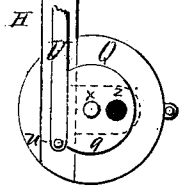
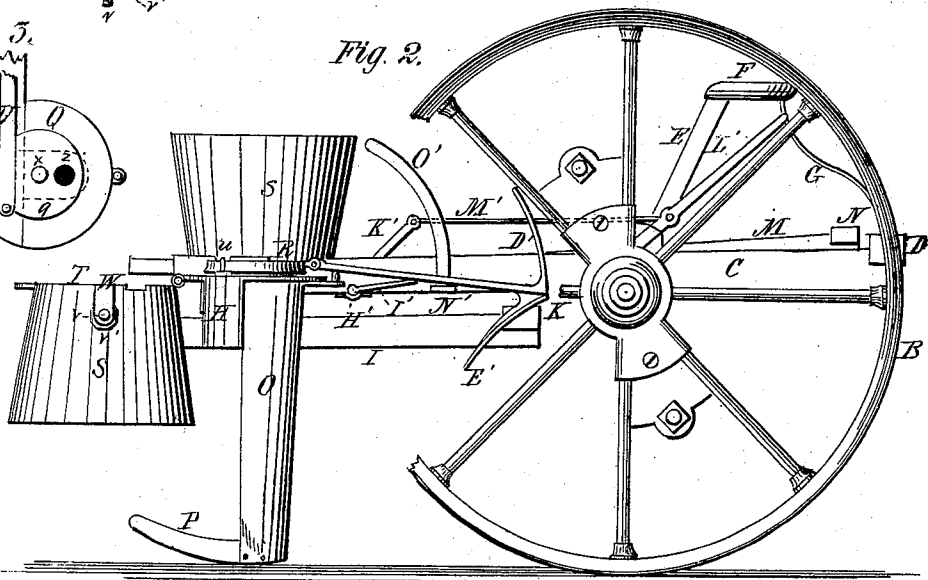


Fig. 2.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

GEORGE THOMPSON, OF SPRINGFIELD, ILLINOIS.

## IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. 127,938, dated June 11, 1872; antedated May 29, 1872.

*To all whom it may concern:*

Be it known that I, GEORGE THOMPSON, of Springfield, in the county of Sangamon and in the State of Illinois, have invented certain new and useful Improvements in Corn-Planters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of my machine with one of the hinged hoppers turned forward so as to expose its lower side, and also the seed-wheel or dropper. Fig. 2 is a side elevation of the same; and Fig. 3 is a plan view of the upper side of the dropper-seat.

Letters of like name and kind refer to like parts in each of the figures.

My invention is principally an improvement upon corn-planters, although it may be applied with equal advantage to all classes of seed-planting machines; and it consists, principally, in the means employed for imparting to the droppers a reciprocating motion through or by means of the rotary movement of the ground-wheels, substantially as is hereinafter specified. It consists, finally, in the means employed for throwing out of engagement the devices for operating automatically the droppers, substantially as and for the purpose hereinafter shown and described.

In the annexed drawing, A represents the axle, supported by means of two ground-wheels, B, which are suitably journaled upon its ends, and in turn supporting the stationary frame, which is composed of two longitudinal bars, C, extending from front to rear across said axle, and connected together at their rear ends by means of a cross-bar, D. Extending upward and slightly rearward from the center of the axle A are two parallel supports, E, upon the upper ends of which is secured a seat, F, the latter and said supports being strengthened by means of a brace, G, which has its upper end fastened to or within said seat, and from thence extending downward and rearward, is secured at its lower end within the cross-bar D. The adjustable frame for supporting the dropping and furrowing devices consists of a transverse bar, H, and two longitudinal bars, I, which are secured upon its lower side near its outer ends, and from

thence extend rearward and inward, and have their rear ends connected by means of a cross-bar, K. From the lower side of the bar H, at its longitudinal center, extends forward the pole L, to which the horses are attached. The bar H is pivoted or suspended at its rear side to or from the forward ends of the bars C so as to be capable of a swinging movement thereon in a line with the draft, while the rear end of the adjustable frame is suspended from the forward end of a lever, M, which extends rearward between and is pivoted to the standards E, and is provided at its rear end with a cross-bar, N, for the feet of the driver.

As thus constructed and suspended, it will be seen that if the feet of the operator are placed upon the cross-bar N and a downward pressure applied, the rear end of the adjustable frame will be raised, while the reverse is true if the pressure is applied to the cross-bar K.

Attached to the bar H near each end and upon its rear side is a seed-spout, O, and runner P, of usual construction, while upon the upper open end of said spout is placed a circular metal plate, Q, provided with a central raised seat, *q*, from the center of which extends vertically upward a stud, *x*. Immediately in rear of said stud is provided a circular vertical opening, *z*, while in front of said stud the raised seat *q* is removed upon a horizontal line at a right angle to the line of the draft. Resting upon the seat *q* is a circular metal disk, R, having a diameter somewhat greater than that of said seat, and provided with a central opening which corresponds with and receives the stud *x*, said stud forming an axial pivot, upon and around which said disk revolves. Within one side of the disk R, from its edge inward, is cut a narrow radial slot, *r*, the object of which will be hereinafter explained, while upon or within the opposite side of said disk are formed two round openings, *z'*, which are placed at a distance from the center corresponding to that of the opening *z* in the seat *q*, while relatively said openings are separated by a distance equal to one-fourth of a circle, of which their centers are the circumference and the pivot *x* the center. The hopper S, having the usual form, is placed upon the plate Q, and has its bottom T recessed out so as to furnish a suitable space

for the disk R. Within the bottom T of the hopper are provided two circular openings,  $z''$ , which correspond in size and distance from the center with those in the disk and its seat, but are placed upon opposite sides of said center, and in a line at a right angle to that of the draft.

As thus arranged it will be seen that if the disk R be rotated so as to cause one of its openings to coincide with the corresponding opening in the bottom of the hopper, the opposite opening in said disk would be turned rearward and caused to coincide with the opening within the seat, and that if said disk were rotated in an opposite direction the positions of its openings would be exactly the reverse with relation to the hopper and seat openings, so that if seed were supplied to said hopper and said disk caused to rotate alternately in opposite directions, the openings of the latter would be successively filled with seed from above and discharge the same through the seat opening into the spout, and through the latter upon or into the ground.

In order that the disks or droppers may be combined and operated together a metal bar, U, having a length slightly greater than the distance between the pivotal studs  $x$ , is placed upon the bar H, with its ends passing through suitable openings between the hopper and plate Q, and resting beneath the forward side of each dropper, said ends being each provided with a stud,  $u$ , which extends vertically upward through the slot  $r$ . As thus arranged, a reciprocating motion of the bar U will be communicated to the droppers and produce the operation of discharging grain from the hoppers, as above described. For convenience of operation the hoppers are each hinged at their lower front sides so as to be capable of removal from over the dropper, as shown in Fig. 2.

In order that the flow of grain from the hoppers may be regulated at will a groove is cut transversely across or within the bottom of each at its upper side, which groove receives a corresponding metal bar, V, which extends outward, and is provided upon its outer end with a threaded bolt,  $v$ , and nut  $v'$ . A lug, W, secured to the under side of the hopper, and from thence extending outward and upward, is provided with an opening that receives the bolt  $v$ , while the nut  $v'$  is contained within the space between said lug and the side of said hopper, the whole being so arranged as that, by the turning of said nut upon its bolt, the latter and the bar V will be moved inward or withdrawn from said hopper. Two openings,  $z'''$ , corresponding in size and relative position to those in the hopper-bottom, are provided in and through the slide-bar V, and permit the grain to flow freely downward when caused to coincide with said lower openings, but when said slide-bar is drawn outward, in a greater or less degree a corresponding change is effected in the relative positions of its openings and those in the hopper bottom,

and the flow of grain checked or entirely prevented.

The dropping devices are operated automatically, by means of the motion of one of the traction-wheels, which motion is communicated through the following-described mechanism: A rectangular bar, A', provided upon its upper side with a plate, B', is so confined within a suitable bearing, C', placed upon the bar H and over the dropper connection U, as to be capable of a horizontal and longitudinal movement in a line with the draft. A diagonal slot,  $b'$ , cut within the plate B', receives a stud  $u'$ , which is secured within and extends vertically upward from the dropper connection U, so that as the bar A' and plate B' are moved back and forth, the sides of said slot,  $b'$ , will force said stud,  $u'$ , from side to side, the length of the former being such as to give to the latter and through it and the connecting-bar to the droppers, the desired rotary motion.

To the rear end of the bar A', and upon opposite sides of the same, are attached two wipers, the upper one of which, D', extends upward and forward in a curve, while the lower wiper E' extends forward and downward in an opposite curve, said latter wiper being attached to the outer edge of the bar while the former one is attached to its inner edge. Secured within, and projecting horizontally inward from the adjacent wheel B are two studs, F' and G', the first of which has a length sufficient to bring its inner end in a line with the inner edge of the wiper D', and is so arranged, radially, within said wheel as to cause it to strike against the rear side and upper end of said wiper when the bar A' is at its furthest point rearward and said wheel is revolved forward, while a second stud, G', corresponds in length to the inner edge of the lower wiper E', and has the necessary radial position to cause it to strike against the forward side and upper end of the same when the bar A' is at its furthest forward point.

As thus arranged, it will be seen that as the wheel revolves the stud F' will strike against the wiper D', and, passing downward over its curved rear side, will press said wiper and the bar A' forward, and leave the latter and the wiper E' in the necessary position to receive the second stud G', which, operating in a like manner upon the front side of the lower wiper E', will return said bar to its first position, the operation of said parts thus giving to the dropping devices the desired reciprocating movements.

To enable the dropping devices to be thrown out of engagement with the studs F' and G', a short shaft, H', is journaled within a suitable bearing beneath the frame-bar C, and provided upon its outer end with an arm, I', that extends rearward against the lower side of the bar A', while upon the inner end of said shaft is secured a second arm, K', that extends upward and rearward. Pivoted at its lower end to or upon the frame-bar C, near-

ly over the axle A, is a lever, L', which, at a distance above its pivoted end corresponding to the length of the arm K', has pivoted there to one end of a connecting-rod, M', the opposite end of which is in turn pivoted to or upon the upper end of said arm. The bar A' being hinged immediately in rear of its bearing C', the hinged portion is sustained in a horizontal position by means of a bearing-lug, N', which extends outward from the frame-bar C.

As thus arranged, the bar A' retains its horizontal position when the lever L' is thrown backward, as seen in Fig. 2; but when said lever is thrown forward the shaft H' is rotated within its bearing, and the arm I' caused to raise said bar to a sufficient distance to remove the wipers beyond the operating studs.

In order to guard against the lateral displacement of the bar A' while being raised, a central longitudinal slot, a', is provided within the same, while a quadrant, O', is secured to the lug N', and from thence extends in a curve upward and forward through said slot.

In order to adapt this device to the planting of other grains it would only be necessary to increase the number of studs upon the wheel so as thereby to quicken the action of the dropping mechanism.

The especial advantages obtained by this construction of a corn-planter are such simplicity of parts and ease of operation as to enable one man to perform the work usually requiring two men.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In combination with the droppers R and connecting-bar U provided with the stud *u*, the sliding-bar A', the plate B' provided with the slot *b'*, the wipers D' and E', and the studs F' and G', secured to and revolving with the traction-wheel, substantially as and for the purpose set forth.

2. In combination with the hinged and slotted bar A', the shaft H' provided with the arms I' and K', the lever L', and the connecting-rod M', substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of August, 1871.

GEORGE THOMPSON.

Witnesses:

CHAS. D. MOODY,  
WM. TWINING.